When planning my study tour I intended to visit universities and libraries to assist in answering the following questions:

- How do we attract students to our university?
- How do we keep students on campus?
- How do we improve the student experience when on campus?
- How do we provide more informal individual and collaborative learning opportunities?

I believed that the best libraries can answer all these questions at least in part or whole and so decided to focus on visiting the most interesting libraries I could find. After much generous advice from our consulting architects, I planned and itinerary including Singapore, Copenhagen, Amsterdam Utrecht, Delft, London, Oxford and Washington. While visiting all these cities I inspected formally or informally some 17 university and public libraries and met with many librarians, facility or project managers responsible for these wonderful buildings. As I carried out my visits at these libraries and spoke to many people involved, many common themes of the best libraries emerged. In capturing these for this report it is my intent to share these simple and possibly obvious traits to provide the best possible physical resources for our students.

The Attractive Library

The libraries I visited ranged from 17th century in Utrecht to almost brand new. The power of a beautiful building to attract visitors, or even become a design icon in its own right cannot be underestimated. Many of the libraries I visited including the Amsterdam Public Library, and the Technical University of Delft have become destinations in their own right for architectural tourists due to their physical beauty. The Bishan Community Library in Singapore is externally a very attractive and colourful building adding greatly to its suburban environment.
Social Spaces

Social spaces also known as informal learning, breakout or common areas were found in all the most successful libraries I visited. A wide variety of furniture was used including sofas, banquettes, armchairs, chaise lounges, giant ottomans, stools and even fitballs and massage chairs. As it was summer holidays when I visited many of the libraries were reasonably quiet. I was advised however that all these spaces were usually full of students either relaxing or working. The key to the success of these spaces is the variety of seating choices available and as advised by my contacts the quality and durability of the furniture and materials. These social spaces also included very popular fittings such as glass white boards for communication, a variety of lighting choices including standard lamps and reading lights. Limited kitchen facilities were sometimes provided with varying degrees of success with housekeeping issues being the biggest problem.

Formal Learning Spaces

The formal learning space takes many forms in the libraries I visited. The traditional silent reading room is a feature in the modern British Library, the Royal Danish Library both old and new sections and in many of the university libraries though not generally as beautiful as these two examples. The learning space takes a more collaborative approach in the University of Copenhagen libraries were as well traditional silent reading rooms, group work tables where conversation was encouraged have been provided. I also saw examples of cafe style booths for group work, some with LCD screens in many libraries though these have proved problematic because if occupied by an individual working alone effectively seating for 4 or 5 others has been lost as there is a reluctance to share these types of seating. What was most significant was that the most successful libraries had a variety of choice of formal learning spaces.
I did notice and it was also pointed out to me that long benches or tables without any sort of definition of an individual’s personal space weren’t overly popular and became inefficient in terms of seating opportunities. It was noted that frequently seats were left vacant between users due to the discomfort or perception of intruding on other’s personal space. This phenomenon was specifically pointed out to me at TU Delft and is being addressed by the ongoing update of the furniture selection were this type of bland homogenous general seating is being replaced by booths, group work tables and benches with individual desk lamps to demarcate personal zones and provide a psychological comfort zone. What is most interesting about this renovation is the degree of consultation that has occurred with students and other user groups in the design of the new space and furniture selections.

University of Copenhagen Humanities Library

The provision of adequate amounts of formal or quiet learning spaces was still seen as very important by all librarians with whom I spoke and a priority over informal or social spaces. The very level of utilisation I witnessed at all the libraries I visited support this. I was informed by the librarians that at the University of Copenhagen libraries where social spaces had been provided, students still used them as quiet spaces and “shushed” other students. They had to be encouraged by librarians to use them as originally intended.

Technology

Technology resources at the best libraries was more than simple catalogue open access PCs. Complete wireless facilities throughout as well as Macs, automated book return and check out systems and all the way to special space age looking cocoon-like chairs for listening to CDs and
watching DVDs (see photo below). The DOK Delft community library even provided electric keyboards in their music library and Play Stations as an enticer to get the younger market through the doors. The British Library utilised the Microsoft Surface visual display system to highlight their precious collections and provide extraordinary access and interactivity for the general public. I spent quite some time browsing through their most special texts. I was also privileged to take a fascinating Library tour which included a back of house visit where we were showed the automated book handling and retrieval system which runs around the building for what seems like miles.

![image](DOK_Delft_The_Netherlands)

What was most distinguishing about the technology was that it was always designed into custom built joinery. Every unit or stand or table had been considered, was practical, hard wearing, elegant and always seamless within the rest of the fit out. The Amsterdam Public Library even made a feature of their automatic book return and sorting system. It is located in the foyer and enclosed in full height glass walls so you can watch the books and other material coming through the chutes, being scanned by automatic eyes and then robot arms straightening and moving the material before it is sent around the miniature conveyor belt system to the appropriate bins for re-shelving.

**Choice**

The best libraries and student spaces had a choice of seating and working opportunities. I feel that choice is a much better descriptor than flexibility, which implies to me nothing more than a quantity of stackable chairs and interlinking hexagonal tables. I feel that choice is a much better descriptor for the provision of a variety of different seating and working possibilities. I noted as well as the standard tables and chair noted above, large communal tables that encouraged group work but were also wide enough across that students could work individually with adequate space in front of
them for books and so on. There were beautifully designed long benches with individual reading
lights and small galleries or upstands to define a work area, sofas, armchairs, banquettes, huge
padded lounging stools long enough to lie on, fit-balls, massage chairs even space-age cocoon
armchairs for viewing or listening of DVDs and CDs privately. The DOK Delft community library
cleverly uses a very wide grand internal staircase as seating for a performance space at the base of
the stairs. The Amsterdam Public Library even has a few tiny individual fully enclosed booths much
like a miniature caravan. The point of the success of all these elements is that the user has choice in
many areas, including working space, comfort level, potential for group or solo work, background
acoustic levels, even seating or sleeping position. I came across more than one sleeping student in
my travels tucked away in a quiet corner. All of these choices are so much useful than merely
providing score s of homogenous chairs and tables that always look messy and are a nightmare for
housekeeping to maintain in some sort of order. The least successful spaces I visited provided only
chairs and tables with no sense of individual space defined with by self controlled reading lights
some sort of screening or other notional barrier. A number of librarians I spoke to noted that their
least successful seating was the ordinary large table for 6 or so people or long benches, as
individual users tended to leave a chair’s space between them due to lack of physical or
psychological space noted above. TU Delft are in the process of replacing this type of seating with a
choice including banquettes, project rooms, and much larger tables encouraging group work
because of the problems identified above. Extensive consultation with the student groups has
occurred during the course of the redesign of the library which is only 10 years old but now not
considered adequate for optimising student outcomes.

The Indoor-Outdoor Connection

The best libraries had very strong indoor-outdoor connections. This was achieved by extensive
windows, skylights and external views or even enclosed, user-accessible courtyards within the
secure library space. The best example of this last situation I found was in Singapore at the National
Library where the courtyards were in fact balconies at multi levels throughout the building. The very
large balconies were extensively planted with beautiful tropical plants and trees creating a shady
space where the users could source power points and wireless access. The balconies were heavily
used despite it being 30 degrees and about 90% humidity. They provided a refreshing break from the
very formal study spaces within.

The European libraries frequently used very large skylights or conservatory type spaces and floor to
ceiling windows. These capitalised on any available views and let in maximum precious daylight. The
distant views are a welcome diversion to intensive study and very restful and refreshing for the eyes.
These very transparent buildings are very welcoming and to be able to see activity within the
building make them very accessible and contribute to the sense of activity and life on the campus or
city. Some of the libraries actually had opening windows, either manually opened by the person
sitting nearest or automatically as part of the building automation system. The University of
Copenhagen Social Sciences Library has manual operating skylights in the attic study rooms. These
rooms are very popular because of this feature as the students are in control of their environment.
Efficiency

The modern student takes it for granted that their library will be efficient with the most modern technology ubiquitous. The most user friendly libraries had ample self check out machines and catalogue machines as well as 24 hour automatic book returns with external access. These were always configured in custom designed joinery. Ample supply of power points, wireless access everywhere including external spaces, independently controlled lighting provided the students with the most efficient study environments possible. The libraries supported this with rapid delivery of pre-ordered books from storage. The Danish libraries went so far as to almost all their books in storage with very little available for browsing so the students are forced to hone their research skills when using the library catalogues before ordering books for storage.

Volume

The most attractive libraries had a quality of design, particularly in regard to the volume or proportion of the various spaces. Beautiful double height spaces were found at the British Library, Royal Danish Library and University of Utrecht Uithof. These spaces, though enormous, were flooded with daylight and engender a sense of peace and calm. The Amsterdam Public Library and British Library also incorporate balcony reading areas overlooking the lower floor reading areas. These seating areas provide a sense of inclusion in the study environment and extensive, long distance views throughout the space.
Other elements

I found some other elements that contributed to the library as a successful student-focused space. These were in no particular order;

- cafes within the Library space with or without the ability to take food and drink into the actual library area.
- Auditoriums and general teaching spaces for public and student lectures. These general teaching spaces are particularly successful at getting student from other disciplines into the library space or students who may otherwise not be interested or feel welcome in the library.
- Exhibition spaces. TU Delft Library intentionally focus their exhibitions to community interest subjects so that the general public feel welcome and interested to visit the library. This has been a very successful program.

Environmental responsibility

The librarians I met with also noted that students now expect that and have commented that the students expect their library is environmentally responsible in operation and design. The European libraries do this in the built form by simple things such as double glazing, opening windows, living roofs and complex heating and cooling system controlled by the building automation systems. The Danish libraries even provide blankets for their students for really chilly days rather than turning up the heating even higher.

Conclusion

By careful consideration and use of the various elements noted above, the libraries I visited have optimised the learning opportunities both collaborative and individual for their students and created beautiful and vibrant spaces that in some instances have become architectural icons in their own right. The new libraries are an attractor in their own right to potential students and may even provide a competitive edge over other institutions.

My TEFMA Schneider Electric Study Tour was an amazing opportunity to visit a number of outstanding libraries and institutions. I was also able to meet many colleagues to discuss space management issues and attend the SCUP conference in Washington DC. The generosity and willingness of my contacts at the various organisations to share their time and knowledge was extraordinary. So many of the problems and challenges we face are shared by others around the world. I will always be grateful for this opportunity to extend my knowledge in these areas and sincerely thank TEFMA and Schneider Electric for this scholarship.